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DATE: Friday, June 30, 2006

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		<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/>	L161	726/.ccls. and ((watermark near2 key) and (encrypt\$6 near2 portion))	4
<input type="checkbox"/>	L160	382/.ccls. and ((watermark near2 key) and (encrypt\$6 near2 portion))	4
<input type="checkbox"/>	L159	352/.ccls. and ((watermark near2 key) and (encrypt\$6 near2 portion))	0
<input type="checkbox"/>	L158	380/.ccls. and ((watermark near2 key) and (encrypt\$6 near2 portion))	9
<input type="checkbox"/>	L157	713/.ccls. and ((watermark near2 key) and (encrypt\$6 near2 portion))	13
<input type="checkbox"/>	L156	((watermark near2 key) and (encrypt\$6 near2 portion)).clm.	3
<input type="checkbox"/>	L155	((watermark near3 contain\$5 near2 key) and (encrypt\$6 near2 portion)).clm.	1
<input type="checkbox"/>	L154	((non adj encrypt\$6 near3 MPEG) same (encrypt\$7 near5 MPEG))	8
<input type="checkbox"/>	L153	((non adj encrypt\$6 near3 MPEG near6 period) same (encrypt\$7 near5 MPEG near6 period))	1
<input type="checkbox"/>	L152	L147 and ((non adj encrypt\$6 near3 MPEG near6 period) same (encrypt\$7 near5 MPEG near6 period))	0
<input type="checkbox"/>	L151	L147 ((non adj encrypt\$6 near3 MPEG near6 period) same (encrypt\$7 near5 MPEG near6 period))	332
<input type="checkbox"/>	L150	L147 (non adj encrypt\$6 near3 MPEG same encrypt\$7 near5 MPEG)	339
<input type="checkbox"/>	L149	L148 and MPEG	36
<input type="checkbox"/>	L148	L147 and (key\$6 near7 (block\$6 or portion43 or segment\$3))	64
<input type="checkbox"/>	L147	L137	331
<input type="checkbox"/>	L146	watermark same (pre adj view or preview) and (commercial or advertis\$7)	38
<input type="checkbox"/>	L145	watermark same (pre adj view or preview)	85
<input type="checkbox"/>	L144	watermark near3 (pre adj view or preview)	19
<input type="checkbox"/>	L143	insert\$7 near2 watermark near5 executable	9
<input type="checkbox"/>	L142	L138 same commercial	13
<input type="checkbox"/>	L141	L138 near5 executab\$7 and advertiz\$7	0
<input type="checkbox"/>	L140	L138 near5 executab\$7 same advertiz\$7	0
<input type="checkbox"/>	L139	L138 near5 executab\$7	11
<input type="checkbox"/>	L138	watermark\$6 near2 object\$7	733
<input type="checkbox"/>	L137	L136 and (encrypt\$7 same watermark\$7)	331
<input type="checkbox"/>	L136	(352/1 352/19 352/26 716/168 716/176 380/200 382/100).ccls.	2623
<input type="checkbox"/>	L135	watermark\$7 same encyption adj key	0
<input type="checkbox"/>	L134	insert\$7 same encyption adj key	0
<input type="checkbox"/>	L133	insert\$7 near10 encyption adj key	0

<input type="checkbox"/>	L132	insert\$7 near4 encyption adj key	0
<input type="checkbox"/>	L131	insert\$7 near4 encyption adj key	0
<input type="checkbox"/>	L130	insert\$7 near4 encyption adj key near10 watermark\$8	0
<input type="checkbox"/>	L129	insert\$7 near4 key near10 watermark\$8	85
<input type="checkbox"/>	L128	(TANAKA near2 NOBUYUKI) and (watermark\$6 same encrypt\$7)	5
<input type="checkbox"/>	L127	(TANAKA near2 NOBUYUKI) and (watermark\$6 same encrypt\$7)	22
<input type="checkbox"/>	L126	(TANAKA near2 NOBUYUKI) and (watermark\$6 or encrypt\$7)	23
<input type="checkbox"/>	L125	5636292.pn.	2
<input type="checkbox"/>	L124	L123 same watermark\$7	10
<input type="checkbox"/>	L123	encrypt\$7 adj key same frame\$6	669
<input type="checkbox"/>	L122	CBC same watermark\$7	4
<input type="checkbox"/>	L121	L120 and (watermark same encrypt\$8 same portion\$6) <i>DB=USPT,PGPB; PLUR=YES; OP=OR</i>	3
<input type="checkbox"/>	L120	('5343527' '5613004' '5638443' '5745569' '5822432' '5825892' '5905800' '5905819' '6141753' '6330672' '6411725' '6522767' '20010010078')![pn] <i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	13
<input type="checkbox"/>	L119	L118 and (watermark\$6 near4 encryption adj key)	18
<input type="checkbox"/>	L118	(713/176).ccls.	1859
<input type="checkbox"/>	L117	watermark near5 (embed\$7 or contain\$7) near4 first adj key	2
<input type="checkbox"/>	L116	MPEG same watermark same encryption and (next same sequence\$3)	1
<input type="checkbox"/>	L115	MPEG same watermark same encryption and (next near3 sequence\$3)	0
<input type="checkbox"/>	L114	MPEG same watermark same encryption and sequence\$3	36
<input type="checkbox"/>	L113	MPEG same watermark same encryption and "n-1"	5
<input type="checkbox"/>	L112	L107 same key and divid\$7	20
<input type="checkbox"/>	L111	L107 same key same divid\$7	2
<input type="checkbox"/>	L110	L107 same key	40
<input type="checkbox"/>	L109	L107 same alternat\$7	8
<input type="checkbox"/>	L108	L107 same period\$7	2
<input type="checkbox"/>	L107	MPEG same watermark same encryption <i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>	58
<input type="checkbox"/>	L106	MPEG same watermark same encfryption <i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	0
<input type="checkbox"/>	L105	6674874 and (encrypt\$8) <i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>	1
<input type="checkbox"/>	L104	L100 and (watermark same key\$6 same plurality)	52
<input type="checkbox"/>	L103	L100 and (watermark same key same plurality) <i>DB=USPT,PGPB; PLUR=YES; OP=OR</i>	52
<input type="checkbox"/>	L102	('5600720' '5666419' '6141753' '6330672' '6385329' '6385596')![pn]	6

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR

<input type="checkbox"/> L101	L100 and (plurality near3 encryption adj key\$4)	8
<input type="checkbox"/> L100	(713/176).ccls.	1859
<input type="checkbox"/> L99	6519352.pn. and encryption	1
<input type="checkbox"/> L98	6353672 and encryption	11
<input type="checkbox"/> L97	6353672.pn.	2
<input type="checkbox"/> L96	watermark near2 (contain\$6 or inster\$5 or embed\$7) near2 encryption adj key	8
<input type="checkbox"/> L95	6865550.pn.	2
<input type="checkbox"/> L94	(embed\$7 or hid\$7) adj encryption adj key	72
<input type="checkbox"/> L93	6141753.pn.	2
<input type="checkbox"/> L92	6301663 and (watermark and key)	9
<input type="checkbox"/> L91	6301663 and (watermark and encryption adj key)	4
<input type="checkbox"/> L90	6301663 and (watermark same encryption adj key)	3
<input type="checkbox"/> L89	6301663	18
<input type="checkbox"/> L88	6301663.pn.	2
<input type="checkbox"/> L87	(embed\$6 or insert\$6)adj key same watermark\$7 same encrypt\$8	14
<input type="checkbox"/> L86	(embed\$6 or insert\$6)adj key same watermark\$7 and encrypt\$8	69
<input type="checkbox"/> L85	(embed\$6 or insert\$6)adj key same watermark\$7	100
<input type="checkbox"/> L84	L81 same watermark\$7	23
<input type="checkbox"/> L83	L81 and watermark\$7	36
<input type="checkbox"/> L82	L81 same plurality near2 keys	1
<input type="checkbox"/> L81	embed\$7 near4 encryption adj key	136
<input type="checkbox"/> L80	6425081.pn.	2
<input type="checkbox"/> L79	6426081.pn.	2
<input type="checkbox"/> L78	5991426.pn.	2
<input type="checkbox"/> L77	20030009669	3
<input type="checkbox"/> L76	2003009669	5
<input type="checkbox"/> L75	2003009669	5
<input type="checkbox"/> L74	20010004736	2
<input type="checkbox"/> L73	stega\$7 and encryption adj key	6
<input type="checkbox"/> L72	stega\$7 same encryption adj key	0
<input type="checkbox"/> L71	stega\$7 near6 encryption adj key	0
<input type="checkbox"/> L70	5862260.pn.	2
<input type="checkbox"/> L69	L66 and encryption	7
<input type="checkbox"/> L68	L67 and watermark	6
<input type="checkbox"/> L67	L66 and encryption	7

DB=USPT,PGPB; PLUR=YES; OP=OR

('5778102'| '6175639'| '6208745'| '6222932'| '6285775'| '6310962'| '6341350'| '6359999'|

<input type="checkbox"/> L66	'6373960' '6404926' '6449378' '6512837' '6587821' '6639996' '20020087864')![pn]	15
	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/> L65	L64 and encryption	4
<input type="checkbox"/> L64	(TANAKA near2 NOBUYUKI) and watermark	21
	<i>DB=USPT,PGPB; PLUR=YES; OP=OR</i>	
<input type="checkbox"/> L63	('5613004' '5905800' '6131161' '6141753')![pn]	4
	<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>	
<input type="checkbox"/> L62	(embed\$5 near3 key near3 watermark\$7) same encryption	30
<input type="checkbox"/> L61	(embed\$5 near3 key near3 watermark\$7) sameencryption	229
<input type="checkbox"/> L60	(embed\$5 near3 key near3 watermark\$7) and encryption	123
<input type="checkbox"/> L59	(embed\$5 near3 key near3 watermark\$7)	229
<input type="checkbox"/> L58	L57 and (embed\$5 near3 encryption adj key)	7
<input type="checkbox"/> L57	(713/176).ccls. and (watermark\$7 with encrypt\$7 with key)	119
<input type="checkbox"/> L56	(713/176).ccls. and (insert\$4 near2 encrypt\$7 adj key)	6
<input type="checkbox"/> L55	(713/176).ccls. and (insert near2 encrypt\$7 adj key)	4
<input type="checkbox"/> L54	L51 same (encrypt\$8 with insert\$7)	3
<input type="checkbox"/> L53	L51 with encrypt\$8 with insert\$7	2
<input type="checkbox"/> L52	L51 with encrypt\$8	67
<input type="checkbox"/> L51	watermark with contain\$7 with key	159
<input type="checkbox"/> L50	insert\$6 near2 encryption adj key same watermark	1
<input type="checkbox"/> L49	insert\$6 near2 envryption adj key same watermark	0
<input type="checkbox"/> L48	insert adj envryption adj key same watermark	0
<input type="checkbox"/> L47	L46 same encrypt\$8	16
<input type="checkbox"/> L46	insert\$6 near4 key near4 watermark\$8	70
<input type="checkbox"/> L45	watermark\$7 same set adj key\$6 same encrypt\$7	22
<input type="checkbox"/> L44	20010004736	2
<input type="checkbox"/> L43	20030009669	3
<input type="checkbox"/> L42	multimedia same watermark same encryption same key\$7	23
<input type="checkbox"/> L41	L40 and watermark	6
<input type="checkbox"/> L40	Kato near3 Hiroshi	2664
<input type="checkbox"/> L39	Kato near3 Hiroshi and watermark and key	2
<input type="checkbox"/> L38	Kato near3 Hiroshi and watermark	6
<input type="checkbox"/> L37	L36 and (embed\$7 near3 encrypt\$6 adj key near3 watermark\$6)	4
<input type="checkbox"/> L36	(713/176).ccls.	1859
<input type="checkbox"/> L35	(713/176).ccls. and stega\$7 and key	20
<input type="checkbox"/> L34	(713/176).ccls. and stega\$7 and (encryption adj key)	1
<input type="checkbox"/> L33	(713/176).ccls. and stega\$7	23
<input type="checkbox"/> L32	KIENZLE near2 MARTIN and stega\$7	0

<i>DB=PGPB; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L31 09/528,456	0
<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L30 09/528,456	1
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L29 09 near2 528,456	0
<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L28 09 near2 528456	0
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L27 09/528456	1
<input type="checkbox"/>	L26 (encryption adj key near3 watermark) and first adj portion and key	3
<input type="checkbox"/>	L25 (encryption adj key near3 watermark) and first adj portion	3
<input type="checkbox"/>	L24 (encryption adj key near3 watermark) same first adj portion	1
<input type="checkbox"/>	L22 L21 and (key.clm.)	55
<input type="checkbox"/>	L21 (steganogra\$7).clm.	234
<input type="checkbox"/>	L20 steganogra\$7 near6 embed\$8 same key	44
<input type="checkbox"/>	L19 encrypt\$7 near3 key near3 embed\$6 near3 watermark\$7	36
<input type="checkbox"/>	L18 encrypt\$7 near3 key near3 contained near3 watermark\$7	5
<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L17 (TANAKA near2 NOBUYUKI) and watermark\$5 and key	3
<input type="checkbox"/>	L16 (TANAKA near2 NOBUYUKI) and watermark and key	3
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L15 (TANAKA near2 NOBUYUKI) and watermark and jey	0
<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L14 embed\$7 near3 key near3 watermark\$7 same encrypt\$7	41
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L13 L11 same first adj portion same second adj portion	2
<i>DB=PGPB,USPT; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L12 L11 same first adj portion same second adj portion	2
<input type="checkbox"/>	L11 embed\$7 near3 key near3 watermark\$7	196
<input type="checkbox"/>	L6 L5 and watermark	1
<i>DB=USPT,PGPB; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L5 ('4200700' '4405829' '5008935' '5048086' '5159633' '5177790' '5613004' '5778074')![pn]	8
<i>DB=USPT; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L4 '5778074'.pn.	1
<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L3 stegano\$7 same encryption adj key	28
<input type="checkbox"/>	L2 encrypt\$6 adj ket near10 embed\$7 near5 watermark	0
<input type="checkbox"/>	L1 encrypt\$6 adj ket near10 embed\$7 near5 watermark same portion	0

END OF SEARCH HISTORY

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Relevance scale **1 A secure multicast protocol with copyright protection** Hao-hua Chu, Lintian Qiao, Klara Nahrstedt, Hua Wang, Ritesh JainApril 2002 **ACM SIGCOMM Computer Communication Review**, Volume 32 Issue 2**Publisher:** ACM PressFull text available:  [pdf\(301.97 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a simple, efficient, and secure multicast protocol with copyright protection in an open and insecure network environment. There is a wide variety of multimedia applications that can benefit from using our secure multicast protocol, e.g., the commercial pay-per-view video multicast, or highly secure military intelligence video conference. Our secure multicast protocol is designed to achieve the following goals. (1) It can run in any open network environment. It does not rely on any sec ...

Keywords: copyright protection, key distribution, multicast security, watermark**2 Software issues: Towards a software architecture for DRM** Sam Michiels, Kristof Verslype, Wouter Joosen, Bart De DeckerNovember 2005 **Proceedings of the 5th ACM workshop on Digital rights management DRM '05****Publisher:** ACM PressFull text available:  [pdf\(296.34 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The domain of digital rights management (DRM) is currently lacking a generic architecture that supports interoperability and reuse of specific DRM technologies. This lack of architectural support is a serious drawback in light of the rapid evolution of a complex domain like DRM. It is highly unlikely that a single DRM technology or standard will be able to support the diversity of devices, users, platforms, and media, or the wide variety of system requirements concerning security, flexibility, a ...

Keywords: DRM, software architecture**3 Systems and architectures: DRM as a layered system** Pramod A. Jamkhedkar, Gregory L. HeilemanOctober 2004 **Proceedings of the 4th ACM workshop on Digital rights management**

Publisher: ACM Press

Full text available: [pdf\(215.18 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The current landscape for digital rights management(DRM) consists of various ad hoc technologies and platforms that largely focus on copy protection. The fragmented nature of the DRM industry in 2004 is somewhat reminiscent of the telecommunications industry in the late 1980's. At that time various networking technologies were available, and what was needed was a technology that could integrate existing networks and provide various services to users. The OSI layered framework and the TCP/IP c ...

Keywords: DRM, OSI layers, content protection

4 Session 1: multimedia networking: An MPEG performance model and its application

 [to adaptive forward error correction](#)

Ketan Mayer-Patel, Long Le, Georg Carle

December 2002 **Proceedings of the tenth ACM international conference on Multimedia**

Publisher: ACM Press

Full text available: [pdf\(180.22 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

We present a general analytical model for predicting the reconstructed frame rate of an MPEG stream. Our model captures the temporal relationships between I-, P, and B-frames but is independent of the channel and media characteristics. We derive an adaptive FEC scheme from the general model and verify it by comparing it to the results of a simulation. The prediction error of the model compared to the simulation for a wide array of parameter values is less than 5%. We then use the derived adaptiv ...

5 A new transport protocol for broadcasting/multicasting MPEG-2 video over wireless

ATM access networks

Hairuo Ma, Magda El Zarki

July 2002 **Wireless Networks**, Volume 8 Issue 4

Publisher: Kluwer Academic Publishers

Full text available: [pdf\(201.01 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Because of the telecommunications de-regulation act and progress in wireless technologies, we will see the co-existence of heterogeneous broadband access infrastructures in the broadband video service industry in the near future. In this paper, we addressed the error control issue when transmitting MPEG-2 video streams over wireless access networks for broadband video broadcast or multicast services. An end-to-end transport protocol based on ATM and wireless ATM technologies is proposed. For vid ...

Keywords: FEC, MEPG-2 broadcast/multicast, WATM, header redundancy, real-time, video quality

6 Protecting VoD the easier way

 Carsten Griwodz, Oliver Merkel, Jana Dittmann, Ralf Steinmetz

September 1998 **Proceedings of the sixth ACM international conference on Multimedia**

Publisher: ACM Press

Full text available: [pdf\(897.94 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: copyright protection, corruption, multimedia, vidio-on-demand

7 Poster 2: applications track: Implementation of a mobile MPEG-21 peer

Shane Lauf, Ian Burnett

November 2005 **Proceedings of the 13th annual ACM international conference on Multimedia MULTIMEDIA '05**

Publisher: ACM Press

Full text available: [pdf\(91.15 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The MPEG-21 Multimedia Framework aims to realize interoperable access to content across heterogeneous networks and devices. Within the Framework, the concept of Digital Items is introduced as a structured digital representation for multimedia. To demonstrate the applicability of MPEG-21 to seamless multimedia interactions on limited platforms, the authors have produced an implementation of MPEG-21 for a mobile device, in Java 2 Micro Edition (J2ME). This paper examines the design and implementat ...

Keywords: MPEG-21, mobile applications, multimedia

8 Robust MPEG video watermarking technologies

Jana Dittmann, Mark Stabenau, Ralf Steinmetz

September 1998 **Proceedings of the sixth ACM international conference on Multimedia**

Publisher: ACM Press

Full text available: [pdf\(1.03 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: copyright protection, digital watermarking for MPEG video, security and the media

9 Open Source in MPEG

Leonardo Chiariglione

March 2001 **Linux Journal**

Publisher: Specialized Systems Consultants, Inc.

Full text available: [html\(28.22 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

A History of MPEG.

10 DRM usability and legal issues: Import/export in digital rights management

Reihaneh Safavi-Naini, Nicholas Paul Sheppard, Takeyuki Uehara

October 2004 **Proceedings of the 4th ACM workshop on Digital rights management**

Publisher: ACM Press

Full text available: [pdf\(211.60 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The inherently controlled nature of digital rights management systems does little to promote inter-operability of systems provided by different vendors. In this paper, we consider import and export functionality by which multimedia protected by one digital rights management regime can be made available to a multimedia device that supports a different digital rights management regime, without compromising the protection afforded to the content under the original regime. We first identify speci ...

Keywords: digital rights management, export, import, inter-operability

11 Robust compression and transmission of MPEG-4 video

Steven Gringeri, Roman Egorov, Khaled Shuaib, Arianne Lewis, Bert Basch

October 1999 **Proceedings of the seventh ACM international conference on Multimedia**

(Part 1)**Publisher:** ACM PressFull text available:  [pdf\(1.46 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper discusses issues related to the delivery of MPEG-4 video over the Internet and wireless channels. MPEG-4's built-in error resilience capabilities such as flexible re-synchronization markers, data partitioning, header protection, reversible VLCs, and forced intra-frame refresh are described. Methods for using these techniques to build a "smart" network decoder are discussed, and the decoder's video quality is measured for various channel error conditions. The effective ...

Keywords: MPEG-4, error mitigation, error resilience, robust video**12 Streaming: Adjusting forward error correction with quality scaling for streaming** **Publisher:** ACM PressJune 2005 **Proceedings of the international workshop on Network and operating systems support for digital audio and video NOSSDAV '05****Publisher:** ACM PressFull text available:  [pdf\(171.44 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Packet loss can severely impact streaming video quality. Repair techniques protect streaming video from packet loss but at the price of a reduced effective transmission rate when streaming a flow in a capacity constrained situation. This paper proposes an algorithm that optimizes the choice of Forward Error Correction (FEC) to repair packet loss for streaming MPEG videos under a capacity constraint with quality scaling. An analytic model is developed to estimate the video quality of streaming MP ...

Keywords: forward error correction, quality scaling, streaming MPEG**13 Adjusting forward error correction with temporal scaling for TCP-friendly streaming** **Publisher:** ACM PressNovember 2005 **ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP)**, Volume 1 Issue 4**Publisher:** ACM PressFull text available:  [pdf\(553.53 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

New TCP-friendly constraints require multimedia flows to reduce their data rates under packet loss to that of a conformant TCP flow. To reduce data rates while preserving real-time playout, temporal scaling can be used to discard the encoded multimedia frames that have the least impact on perceived video quality. To limit the impact of lost packets, Forward Error Correction (FEC) can be used to repair frames damaged by packet loss. However, adding FEC requires further reduction of multimedia dat ...

Keywords: MPEG, Multimedia networking, TCP-friendly, forward error correction**14 Layered unequal loss protection with pre-interleaving for fast progressive image transmission over packet-loss channels** **Publisher:** ACM PressNovember 2005 **ACM Transactions on Multimedia Computing, Communications, and Applications (TOMCCAP)**, Volume 1 Issue 4**Publisher:** ACM Press

Full text available:  pdf(2.06 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Most existing unequal loss protection (ULP) schemes do not consider the minimum quality requirement and usually have high computation complexity. In this research, we propose a layered ULP (L-ULP) scheme to solve these problems. In particular, we use the rate-based optimal solution with a local search to find the average forward error correction (FEC) allocation and use the gradient search to find the FEC solution for each layer. Experimental results show that the executing time of L-ULP is much ...

Keywords: Progressive image transmission, forward error correction, joint source-channel coding, packet loss, unequal loss protection

15 Methods for encrypting and decrypting MPEG video data efficiently 

 Lei Tang
February 1997 **Proceedings of the fourth ACM international conference on Multimedia**
Publisher: ACM Press
Full text available:  pdf(1.45 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: MPEG codec, compression, multimedia commerce, multimedia encryption, multimedia security

16 Security: Privacy protection for signed media files: a separation-of-duty approach to the lightweight DRM (LWDRM) system 

 Rüdiger Grimm, Patrick Aichroth
September 2004 **Proceedings of the 2004 workshop on Multimedia and security MM&Sec '04**
Publisher: ACM Press
Full text available:  pdf(256.47 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

The aim of strong digital rights management (DRM) is to enforce usage rules in end-user devices on behalf of content providers. Strong DRM is not well accepted by customers. Moreover, strong DRM is repeatedly circumvented and broken. Since Napster (and all its Peer-to-Peer follow-ups), the Internet is flooded with illegal digital content. We introduce the LWDRM technology as an alternative model. LWDRM relies on responsible behavior of customers. However, LWDRM contains a privacy problem, in tha ...

Keywords: LWDRM, light weight digital rights management, privacy, pseudonyms, separation of duty, virtual goods

17 Forward error control for MPEG-2 video transport in a wireless ATM LAN 

Ender Ayanoglu, Pramod Pancha, Amy R. Reibman, Shilpa Talwar
December 1996 **Mobile Networks and Applications**, Volume 1 Issue 3

Publisher: Kluwer Academic Publishers

Full text available:  pdf(439.61 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The possibility of providing multimedia services to mobile users has led to interest in designing broadband wireless networks that can guarantee quality of service for traffic flows. However, a fundamental problem in these networks is that severe losses may occur due to the random fading characteristics of the wireless channel. Error control algorithms which compensate for these losses are required in order to achieve reasonable loss rates. In this paper, the performance of error control ba ...

18 Multimedia content protection by cryptography and watermarking in tamper-resistant  hardware

Feng Bao

November 2000 **Proceedings of the 2000 ACM workshops on Multimedia**

Publisher: ACM Press

Full text available:  pdf(386.63 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

With the rapid growth of broadband network, distribution of multimedia via Internet is a must way to go. Content protection has become one of the most significant and challenging problems of this field. In this paper, we propose a general scheme that combines public key cryptography and watermarking technology together, to achieve wonderful content protection. The scheme is reliable, flexible and efficient.

Keywords: multimedia content protection, public key cryptography, tamper-resistant hardware, watermarking technology

19 A fast MPEG video encryption algorithm  Changgui Shi, Bharat BhargavaSeptember 1998 **Proceedings of the sixth ACM international conference on Multimedia**

Publisher: ACM Press

Full text available:  pdf(805.58 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: DES, MPEG codec, MPEG video encryption, multimedia data security

20 MPEG-4: an object-based multimedia coding standard supporting mobile applications

Atul Puri, Alexandros Eleftheriadis

June 1998 **Mobile Networks and Applications**, Volume 3 Issue 1

Publisher: Kluwer Academic Publishers

Full text available:  pdf(747.80 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The ISO MPEG committee, after successful completion of the MPEG-1 and the MPEG-2 standards is currently working on MPEG-4, the third MPEG standard. Originally, MPEG-4 was conceived to be a standard for coding of limited complexity audio-visual scenes at very low bit-rates; however, in July 1994, its scope was expanded to include coding of scenes as a collection of individual audio-visual objects and enabling a range of advanced functionalities not supported by other standards. One of the ke ...

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